WHAT IS CLAIMED IS:

1. A data transfer device for receiving first data transmitted from a first communication device, transmitting the first data to another data transfer device connected to a second communication device that is a destination of the first data, receiving second data transmitted from the second communication device from the another data transfer device, and transmitting the second data to the first communication device that is a destination of the second data, the data transfer device comprising:

a reception unit configured to receive the first data from the first communication device;

a cache unit configured to register cache data that were transmitted to the another data transfer device in past, in correspondence to cache data names each of which is generated according to a content of each cache data and assigned to each cache data;

a processing unit configured to carry out a processing for transmitting a first data name that is generated according to a content of the first data and assigned to the first data, instead of transmitting the first data, when the first data name is registered in the cache unit, or a processing for registering the first data in correspondence to the first data name into the cache unit and transmitting the first data when the first data name is not registered in the cache unit, upon receiving the first data transmitted from the first communication device; and

a transmission unit configured to transmit the first data name or the first data to the another data transfer device according to a processing carried out by the processing unit.

2. The data transfer device of claim 1, wherein the cache unit registers the cache data names each of which is a

value obtained by compressing each cache data by a prescribed method, and the processing unit transmits or registers the first data name which is a value obtained by compressing the first data by the prescribed method.

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3. The data transfer device of claim 1, wherein the cache unit registers the cache data names each of which is a value obtained by applying a prescribed hash function to each cache data, and the processing unit transmits or registers the first data name which is a value obtained by applying the prescribed hash function to the first data.

4. The data transfer device of claim 1, wherein the processing unit also transmits the first data name to be assigned to the first name at a time of transmitting the first data to the another data transfer device as the first data name is not registered in the cache unit.

5. The data transfer device of claim 1, wherein the processing unit transmits the first data name and registers the first data into the cache unit at least with respect to a data of a reply message which is not null.

6. The data transfer device of claim 1, wherein the processing unit excludes data that satisfy a prescribed condition from targets for carrying out a registration into the cache unit.

7. The data transfer device of claim 1, wherein the data transfer device is connected to the first communication device through a local area network.

8. The data transfer device of claim 1, wherein the data transfer device is provided in a form of a software implemented on the first communication device.

another data transfer device, transmitting the first data to a second communication device that is a destination of the first data, receiving second data transmitted from the second communication device, and transmitting the second data to the another data transfer device connected to the first communication device that is a destination of the second data, the data transfer device comprising:

a reception unit configured to receive the first data or a first data name that is generated according to a content of the first data and assigned to the first data, from the another data transfer device;

a cache unit configured to register cache data that were received from the another data transfer device in past, in correspondence to cache data names each of which is generated according to a content of each cache data and assigned to each cache data;

a processing unit configured to carry out a processing for acquiring a cache data registered in correspondence to the first data name from the cache unit and transmitting an acquired cache data when the first data name is received from the another data transfer device, or a processing for registering the first data in correspondence to the first data name to be assigned to the first data into the cache unit and transmitting the first data when the first data is received from the another data transfer device; and

a transmission unit configured to transmit the acquired cache data or the first data to the second communication device according to a processing carried out by the processing unit.

18. The data transfer device of claim 17, wherein the cache unit registers the cache data names each of which is a value obtained by compressing each cache data by a prescribed method, and the processing unit registers the first data name which is a value obtained by compressing

the first data by the prescribed method.

19. The data transfer device of claim 17, wherein the cache unit registers the cache data names each of which is a value obtained by applying a prescribed hash function to each cache data, and the processing unit registers the first data name which is a value obtained by applying the prescribed hash function to the first data.

20. The data transfer device of claim 17, wherein the processing unit registers the first data in correspondence to the first data name into the cache unit when the first data name is received from the another data transfer device along with the first data.

21. The data transfer device of claim 17, wherein the processing unit transmits the acquired cache data or the first data name and registers the first data into the cache unit at least with respect to a data of a reply message which is not null.

22. The data transfer device of claim 17, wherein the processing unit excludes data that satisfy a prescribed condition from targets for carrying out a registration into the cache unit.

23. The data transfer device of claim 17, wherein the data transfer device is connected to the second communication device through a local area network.

24. The data transfer device of claim 17, wherein the data transfer device is provided in a form of a software implemented on the second communication device.

25. The data transfer device of claim 17, wherein when the